Chapter 32 – Bloodborne Pathogens Protection Plan (REDACTED)

32.1 Purpose

This Plan states the basic policy, requirements, and procedures for compliance with Occupational Safety and Health Administration (OSHA) requirements for protection of employees from the hazards of occupational exposure to bloodborne pathogens found in 29 CFR 1910.1030.

32.2 Policy

The policy of Ames Research Center (ARC) is to provide a program that meets applicable OSHA requirements for operations at ARC. This Plan eliminates or minimizes employee exposure to bloodborne pathogens (BBP). The Bloodborne Pathogens Standard applies, by definition, to operations involving human blood or other potentially infectious materials of human origin. Universal precautions are followed as standard practice. Infection control for operations not covered by the Standard (for example, animal handling, microbiology, rest room cleaning, and sewer work) may follow these guidelines. It is NASA policy that no human immunodeficiency virus (HIV) or Hepatitis B virus (HBV) research is performed at ARC.

32.3 Applicability

This manual is applicable to: (1) all Ames Employees; and (2) all persons and entities who agree in writing to comply with this manual.

32.4 Authority

29 CFR 1910.1030, Bloodborne Pathogens Standard
29 CFR 1910.1020, Access to Employee Exposure and Medical Records

32.5 Definitions

For the purposes of this section, the following definitions apply:

1. **Biological Cabinet:** A device enclosed except for necessary exhaust purposes on three sides and top and bottom, designed to draw air inward by means of mechanical ventilation, operated with insertion of only the hands and arms of the user, and in which virulent pathogens are used. Biological cabinets are classified as:
    - Class I: A ventilated cabinet for personnel protection with an unrecirculated inward airflow away from the operator and high-efficiency particulate air (HEPA)-filtered exhaust air for environmental protection.
    - Class II: A ventilated cabinet for personnel, product, and environmental protection having an open front with inward airflow for personnel protection, HEPA-filtered laminar airflow for product protection, and HEPA-filtered exhaust air for environmental protection.
    - Class III: A totally enclosed, ventilated cabinet of gas-tight construction. Operations in the cabinet are conducted through attached protective gloves.
2. **Blood:** Human blood, human blood components, and products made from human blood, including plasma, platelets, and serosanguinous fluids (for example, exudates from wounds).

3. **Bloodborne Pathogens (BBP):** Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include hepatitis B virus (HBV) and human immunodeficiency virus (HIV), and any pathogenic microorganism that is present in human blood and can infect and cause disease in persons who are exposed to blood containing the pathogen. Other examples include hepatitis C, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arborviral infections, relapsing fever, Creutzfeld-Jakob disease, Human T-lymphotropic Virus Type 1, and viral hemorrhagic fever.
4. **Clinical Laboratory:** A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.
5. **Contaminated:** The presence or the reasonably anticipated presence of blood or other potentially infectious materials on a surface or in an item.
6. **Contaminated laundry:** Laundry that has been soiled with blood or other potentially infectious materials or may contain sharps.
7. **Contaminated sharps:** Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.
8. **Contractor:** Any entity that performs services at or on behalf of Ames Research Center, and staff, including direct hires or subcontractors.
9. **Decontamination:** The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal. Decontamination includes procedures regulated by California Health and Safety Code Section 25090.
10. **Employee:** Government (civil service) employee, including persons working at Ames on Federal grants.
11. **Engineering controls:** Controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.
12. **Exposure Incident:** A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties. Non-intact skin includes skin with dermatitis, hangnails, cuts, abrasions, chafing, etc.
13. **Handwashing facilities:** A facility that provides an adequate supply of running potable water, soap, and single-use towels or hot air-drying machines.
14. **HBV:** Hepatitis B virus.
15. **HIV:** Human immunodeficiency virus.
16. **Licensed health care professional:** A person whose legally permitted scope of practice allows him/her to independently perform the activities required by 8 CCR 5193 subsection (f) and 29 CFR 1960.1030 subsection (f), Hepatitis B Vaccination and Post-exposure Evaluation and Follow-Up.
17. **Occupational exposure:** Reasonably anticipated potential for exposure; for example, skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
18. **One-hand Technique:** Procedure wherein the needle of a reusable syringe is capped in a sterile manner during use. The technique employed shall require the use of only the hand holding the syringe so that the free hand is not exposed to the uncapped needle.

19. **OSHA recordable injury:** An occupational bloodborne pathogens exposure incident that is the result of an instantaneous event or exposure and:
    - Is a work-related injury that involves loss of consciousness, transfer to another job, or restriction of work or motion, or
    - Results in the recommendation of medical treatment beyond first aid (for example, gamma globulin, Hepatitis B immune globulin, Hepatitis B vaccine, or zidovudine) regardless of dosage, or
    - Results in a diagnosis of seroconversion (see CPL 2-2.44C for complete instructions)
20. **Other potentially infectious materials (OPIM):**
    - The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any other body fluid that is visibly contaminated with blood such as saliva or vomitus, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids such as emergency response;
    - Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
    - HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV. Preparations that originate from body fluids, such as human serum albumin, shall also be considered potentially infectious materials, unless specifically excluded or certified pathogen-free. Coverage under this definition also extends to blood and tissues of animals that are deliberately infected with HIV or HBV.
21. **Parenteral:** Piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.
22. **Personal Protective Equipment (PPE):** Specialized clothing or equipment worn or used by an employee for protection against a hazard. General work clothes (for example, uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.
23. **Regulated waste:** Liquid or semiliquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semiliquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials. Regulated Waste includes "medical waste" regulated by California Health and Safety Code Chapter 6.1 and 26 CCR, Section 22-656 through 23-65628.
24. **Research laboratory:** A laboratory that produces or uses research-laboratory-scale amounts of HIV or HBV. Academic research laboratories are included in this definition. Laboratories that conduct research unrelated to HIV or HBV on blood and other body fluids, or that use unconcentrated blood or blood components as the source of HIV or HBV, are not considered research laboratories for the purpose of the standard.
25. **Sharps:** Needles, scalpels, and any other object that may produce a puncture wound that would expose employees to blood or OPIM (for example, wires, broken glass).
26. **Source individual:** Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinical patients, clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices

and nursing homes; human remains; and individuals who donate or sell blood or blood components.

27. **Sterilize:** The use of a physical or chemical procedure to destroy all microbial life, including highly resistant bacterial endospores. Sterilization includes procedures regulated by California Health and Safety Code Section 25090.
28. **Universal Precautions:** An approach to infection control. According to the concept of Universal Precautions, all human blood, and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens. Universal precautions do not apply to feces, nasal secretions, sputum, saliva, sweat, tears, urine, and vomitus, unless they contain visible blood.
29. **Work practice controls:** Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

32.6 Responsibilities

32.6.1 Overview

The chain of responsibility for ensuring that there is a safe work environment at NASA Ames Research Center that follows required safety standards, regulations, codes, and guidelines start with the Center Director and flows downward through management and supervisors. In addition, each person who works at ARC must understand that "a condition of employment" is to observe all safety specifications applicable to the task being performed.

32.6.2 Supervisors and Managers

REDACTED

32.6.3 Employees

REDACTED

32.6.4 Ames Health Unit

The Health Unit, as the government's delegated representative, performs some responsibilities of the employer, as defined in 29 CFR 1910.1030, as follows:

1. Provides medical consultation, Hepatitis B vaccine, and vaccination series to NASA employees who anticipate occupational exposure upon receiving a Request for Evaluation from their supervisor and exposure incident follow-up as recommended by the Ames physician.
2. Maintains ARC medical records as specified in 29 CFR 1910.1030, and provides copies of records (see section 32.9.5.1) using forms provided in the appendices.
3. Provides HBV vaccination booster dose(s) to any government employee employed at ARC in a position with occupational exposure when any booster dose is recommended by the U.S. Public Health Service at a future date.
4. Provides emergency care to any person who experiences exposure while providing emergency aid as a Good Samaritan act at ARC, and, with consent, transfers relevant medical records to the health care provider designated by the exposed person.

32.6.5 Contracting Officer's Technical Representative (COTR)

Contractors shall identify positions or operations that are subject to Bloodborne Pathogens regulations. The safety plan provided to ARC for such contracts must contain a Bloodborne Pathogens Exposure Control Plan that complies with the provisions of this program. The COTR is responsible for ensuring that safety, health, and environmental compliance for BBP is

maintained during contract operations. Contractors who perform tasks with occupational exposure shall be covered by their employer's Bloodborne Pathogens Protection Program with exposure controls that comply, at a minimum, with the provisions of this Plan. Specific COTR functions for tasks subject to the Bloodborne Pathogens standard include:

REDACTED

32.6.6 Overview

The Safety, Health, and Medical Services Division has the following responsibilities:

- Monitor the ARC Bloodborne Pathogen Program to include assessments of work-sites and employee procedures where there is a reasonable anticipated potential of exposure to blood or OPIM.
- Advise ARC management on matters concerning bloodborne pathogens.
- Investigate exposure incidents and report findings to ARC management and agencies as required.
- Review and update Exposure Control Plan annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure.

32.7 New Employee Orientation

As soon as a new employee is hired for tasks with occupational exposure, the supervisor must enroll the employee in Bloodborne Pathogens basic training and schedules Hepatitis B vaccination consultation at the Occupational Ames Health Unit (by submittal of the form in Appendix B, section 32.13.2). Within ten working days of the initial assignment, the Hepatitis B vaccination is made available to the employee after BBP training. General and task-specific safety training is also scheduled or provided by the supervisor. A New Employee Orientation Checklist for supervisors is provided in Appendix A (section 32.13.1).

32.8 Training

Employees with occupational exposure shall participate in a training program that is provided during working hours and at no cost. The training program is given as followings:

1. Within ten (10) days of initial assignment.
2. At least annually (after initial training).
3. When new or modified tasks or procedures affect occupational exposure.

Training is made available to government employees by the Safety Health, and Medical Services Division (Code QH). Bloodborne Pathogens Training (BBPT) provides instruction in the elements specified in 29 CFR 1910.1030, which include:

1. An accessible copy of the regulatory text of the Bloodborne Pathogens Standard and an explanation of its contents.
2. A general explanation of the epidemiology and symptoms of bloodborne diseases.
3. An explanation of the modes of transmission of bloodborne pathogens.
4. An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan.
5. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
6. An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and Personal Protective Equipment (PPE).
7. Information on the types, proper use, location, removal, handling, decontamination and disposal of Personal Protective Equipment (PPE).

8. An explanation of the basis for selection of Personal Protective Equipment (PPE).
9. Information on the Hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination is offered free of charge.
10. Information on the appropriate actions to take and persons to contact in an emergency that involves blood or other potentially infectious materials.
11. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
12. Information on the postexposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
13. An explanation of the required signs and labels and/or color-coding.
14. An opportunity for interactive questions and answers with the person conducting the training session.

Additionally, persons who are designated as emergency care providers will be trained in the proper use of resuscitator and emergency ventilation devices such as masks, mouthpieces, resuscitation bags, shields/overlay barriers. Emergency care providers will also be instructed in the provisions for limited permitted exemptions from the use of PPE in certain emergency situations (see CPL 2-2.44C M.4.c.).

32.9 Exposure Control Plan

32.9.1 Exposure Determination

32.9.1.1 Civil Service Job Classifications with Possible Bloodborne Pathogen Exposure

There are no civil service job classifications at ARC with all persons having reasonably anticipated exposure to bloodborne pathogens.

Civil service job classifications in which some ARC personnel may have reasonably anticipated exposure include:

Occupation Code	Position Title
80	Physical Security Specialist
80	Security Officer
80	Security Specialist
401	AST, Neurobiological Studies
404	Biological Laboratory Technician
413	Physiologist
499	Student Trainee, Biological Science
601	Human Research Manager
602	Medical Officer
690	Industrial Hygienist
1301	AST, Life Support Studies

Personnel in these classifications shall be identified as having reasonably anticipated exposure when their position includes the following tasks:

Tasks with bloodborne pathogen exposure

1. Emergency response
2. Patient/subject care
3. Phlebotomy and blood specimen handling
4. Research with blood or other potentially infectious materials (as defined in section 32.5, number 24)
5. Research with human tissue cell cultures.

32.9.1.2 ARC Positions and Tasks with Bloodborne Pathogens Exposure

All persons whose position description includes the following job classifications have reasonably anticipated exposure. These are typically contractor positions. Positions with bloodborne pathogen exposure:

1. Physician
2. Nurse
3. Phlebotomist
4. Security officer
5. Law enforcement officer
6. Security shift supervisor
7. Designated emergency - Some persons whose position description includes the following job classifications have reasonably anticipated exposure, when assigned listed tasks.
8. Technician (laboratory science)
9. Plumber: clean sewer (when expected to contain sharps and/or contaminated material)

Examples of jobs at NASA Ames Research Center that deal with Bloodborne Pathogens include:

Position	Tasks with bloodborne pathogen exposure
Research scientist	Handle human tissue products, e.g., human cell culture, standard for blood analyzer, and human serum albumin.
Research associate	
Payload scientist	
Experiment support scientist	

The following job classifications have specific prohibited activities:

Position	Prohibited activities, listed for contingency operations only
Custodian/janitor	Pick up waste containing sharps
	Clean Occupational Health Unit contaminated area
	Clean and/or autoclave contaminated labware

10. Hazardous waste technician: handle improperly packaged biohazardous waste
11. Incinerator operator: handle improperly packaged biohazardous waste

32.9.2 Methods of Compliance

This section contains mandatory compliance methods specified in 29 CFR 1910.1030. Managers or supervisors must develop site-specific guidelines for conducting tasks with BBP exposure. A worksheet is provided in Appendix F (section 32.13.6) for documentation of the controls and PPE provided for tasks with anticipated exposure. The worksheet is attached to

the local (e.g., organization, site, or project) safety plan, with any standard operating procedures (SOPs) and other appropriate supplemental documentation.

32.9.2.1 Universal Precautions

Universal Precautions are adopted as the primary rule to prevent exposure to potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible to determine, all body fluids will be considered potentially infectious materials. Universal Precautions, which supplement biohazard control measures at worksites with occupational exposure, are standard practice for all procedures in emergency or outpatient settings where there are traumatic injuries.

32.9.2.2 Engineering and Work Practice controls

General controls specified by the Bloodborne Pathogens Standard are as follows:

1. Personnel shall wash hands with running water and soap:
   - Before leaving the work area.
   - After removal of gloves or other PPE.
   - After contact with blood or other potentially infectious materials (wash all affected skin and flush affected mucous membranes). If there are no handwashing facilities, antiseptic towelettes or antiseptic hand cleanser and clean towels shall be provided. Personnel will wash with running water and soap as soon as feasible.
2. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
3. Food and drink will not be kept in refrigerators, freezers, shelves, cabinets, or on countertops where blood or other potentially infectious materials may be or may have been used or stored.
4. Specimens of blood or other potentially infectious materials will be placed in containers that prevent leakage during collection, handling, processing, storage, transport, or shipping.
5. All containers will be identified by the Biohazard symbol and legend (predominantly fluorescent orange or orange-red with lettering and symbols in a contrasting color) and a label identifying the date, contents, and responsible person. Containers must be
   - Easily accessible
   - Maintained upright throughout use
   - Replaced routinely
   - Not overfilled
   - Closed immediately prior to removal or replacement
   - Placed in a secondary container if leakage is possible
6. Biohazard warning labels will be affixed to refrigerators and freezers that contain blood or other potentially infectious materials (an example is provided in Appendix P, section 32.13.16).
7. All procedures that involve blood or other potentially infectious materials will be performed in a manner that minimizes splashing, spraying, spattering, and generating droplets of these substances. If possible, blood samples will be capped during centrifugation. Operations that generate aerosols will be conducted within an exhaust or biohazard containment hood or glove box.
8. Pipettes, suction tubes, or other equipment may not be placed in the mouth while in an area where blood or other potentially infectious materials are present.

9. Devices that offer an alternative to needles (stopcocks, needle-protected systems, or needleless systems) or self-sheathing needles will be used whenever possible.
10. When it is not possible to use self-sheathing needle syringes and the employee must recap, some type of device that protects the hand or allows a safe one-handed recapping method must be used. A proper, one-handed scoop method is a work practice that may also be used in these circumstances. A written justification for recapping shall be included in the worksite exposure control plan.
11. Shearing or breaking of contaminated needles is prohibited. Contaminated needles and other contaminated sharps will not be bent, recapped, or removed by hand as general practice. In circumstances where these actions are necessary, a written justification is included in the worksite exposure control plan. Such actions may be accomplished only through the use of a mechanical device or a one-handed technique.
12. Contaminated disposable sharps are placed in red Sharps Boxes (immediately or as soon as possible after use). Disposable sharps containers will be:
    - Closable
    - Puncture resistant
    - Leakproof on the sides and bottom
    - Labeled or color-coded in accordance with this standard (an example is provided in Appendix P, section 32.13.16)
    - Easily accessible
    - Located as close as is feasible to area of use
    - Maintained
    - Replaced routinely and not allowed to overfill
    - Closed immediately prior to removal or replacement
    - If leakage is possible, placed in secondary container that is closable, labeled, and can contain all contents and prevent leakage.
    - Not opened, emptied, or cleaned manually or in any other manner that would expose employees to the risk of percutaneous injury.
    - Contaminated reusable sharps will be promptly placed in appropriate containers until properly reprocessed. These sharps will not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed. These containers must meet the same requirements as containers for disposable sharps with the exception that they are not required to be closable and may be reused.

      Note: All disposed sharps are defined as medical waste, except for certain exempted veterinary items. However, all needles and sharps must be disposed of in "Sharps Boxes."

    - Requirements for disposal of medical waste with bloodborne pathogens are provided (See Appendix Q, section 32.13.17), and also in the Ames Environmental Management Handbook.
13. Protective coverings are used wherever possible. These include, for example, plastic equipment covers and disposable, absorbent, plastic-backed work surface covers. If this option is chosen, the covering must be removed and replaced at stated minimum intervals. For example, as soon as is feasible following overt contamination or at the end of a shift if the cover becomes contaminated during the shift.
14. Equipment that may become contaminated with blood or other potentially infectious materials is examined prior to servicing or shipping and shall be decontaminated as

necessary, unless the supervisor demonstrates to the Safety Division that decontamination of such equipment or portions of such equipment is not possible. A readily observable label stating which portions remain contaminated is attached to the equipment. The supervisor ensures that this information is conveyed to all affected employees, the service representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping, so that appropriate precautions are taken.

15. Health care workers who have exudative lesions or weeping dermatitis must refrain from all direct patient care and from handling patient-care equipment until the condition resolves.
16. CPR training is provided at Ames to designated emergency responders as well as to volunteers who request training in order to respond as "Good Samaritans" in an emergency at home or elsewhere. Recommendations for minimizing risk during CPR training are contained in a Sample Exposure Control Plan distributed by the American College of Occupational and Environmental Medicine (Appendix R, section 32.13.18). These recommendations are standard practice for CPR training provided or sponsored by ARC. A discussion of risk minimization during actual CPR is also provided in Appendix R, section 32.13.19.

32.9.2.3 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) is selected for each task with occupational exposure. PPE provides an effective barrier to the passage of potentially infectious materials to or through the employees' clothing or prevents contact with skin, eyes, mouth, or other mucous membranes, for the duration of use. Selection of PPE is performance based. A supply of the designated PPE (in the appropriate size, where applicable, for each involved employee) is maintained in each workplace where potentially infectious materials may be present. Any employee who declines to use the provided PPE for any reason shall confer with the supervisor and/or the Safety Office in order to determine alternative protection. Appropriate PPE is available from Ames Stores Stock.

Note: N-Dex [a] nitrile gloves are hypoallergenic. These "blue" gloves or cotton gloves are recommended as liners for persons who are sensitive to latex rubber gloves.

1. Gloves must be worn when it is reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, or non-intact skin. Gloves must also be worn when performing vascular access procedures, and when handling or touching contaminated items or surfaces.

   Note: Handwashing is required after glove removal because neither vinyl nor latex procedure gloves are completely impermeable.

   Disposable (single use) gloves such as surgical or examination gloves are replaced as soon as possible when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Disposable gloves will not be washed or decontaminated for reuse.

   Utility gloves may be decontaminated for reuse if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.
2. Masks, in combination with eye protection devices, such as goggles or glasses with solid side shields or chin-length face shields, will be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be anticipated.
3. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments must be worn in occupational exposure situations. The type and characteristics depend upon the task and degree of exposure anticipated.

4. All PPE will be removed prior to leaving the work area.
5. When PPE is removed it will be placed in an appropriately designated area or biohazard container for storage, washing, decontamination, or disposal.
6. Soiled laundry will be handled, stored, and processed in a manner that prevents the spread of infection and assures the maintenance of clean linen. Soiled laundry shall be stored and handled separately from clean linen. Personnel handling soiled laundry will use gloves and wash hands after handling. Carts used to transport soiled laundry shall be so labeled, cleaned daily, and not used for clean linen. Contaminated laundry will not be sorted or rinsed, and will be contained with a minimum of agitation in closed, labeled containers or red bags at the location where it was used. Wet items will be double bagged.
7. Resuscitator devices shall be readily available and accessible to persons designated as emergency care providers (e.g., security guard, DART member). These shall include emergency ventilation devices such as masks, mouthpieces, resuscitation bags, and shields/overlay barriers.

32.9.2.4 Housekeeping

Supervisors shall ensure that the worksite is maintained in a clean and sanitary condition. The supervisor establishes and posts an appropriate written schedule for cleaning of equipment and environmental and working surfaces. The method of decontamination is specified based on the location within the facility, the tasks and procedures being performed in the area, the type of surface to be cleaned, and the type of soil present. A sample BBP Laboratory Inspection Supplemental Checklist (Appendix G, section 32.13.7) may be used as a supplement to the general laboratory inspection checklist.

Note: The Center for Disease Control (CDC) states that HBV can survive for at least one week in dried blood on environmental surfaces or contaminated needles and instruments.

A supply of disinfectant shall be maintained available in all work sites where potentially infectious materials are present. A 1:10 dilution of household chlorine bleach (5 percent sodium hypochlorite) is recommended. Bleach solutions must contain, at a minimum, one-fourth cup household bleach per gallon of water. Environmental Protection Agency (EPA) registered "hospital disinfectant" chemical germicides that have a label claim for tuberculocidal activity (for example, Cidex, Isolyser) are acceptable alternatives when used following manufacturer's instructions for rinsing or immersion with minimum of three minutes duration. Equipment should be pre-cleaned of any visible material before germicidal chemical is applied.

A recommended procedure is provided in Appendix O (section 32.13.15).

1. Contaminated work surfaces will be decontaminated with an appropriate EPA-approved disinfectant after completion of procedures; immediately or as soon as possible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.
2. Protective coverings, such as plastic wrap, aluminum foil, or imperviously backed absorbent paper used to cover equipment and environmental surfaces, are removed and replaced as soon as possible when they become overtly contaminated or at the end of the work shift if they are contaminated during the shift.
3. All bins, pails, cans, and similar receptacles intended for reuse that may become contaminated with blood or other potentially infectious materials are inspected and decontaminated on a regularly scheduled basis, and cleaned and decontaminated immediately or as soon as possible when overtly contaminated.
4. Broken glassware that may be contaminated will not be picked up directly with the hands. It is cleaned up using mechanical means, such as a brush and dustpan, tongs, or forceps.

5. Laboratory spills are cleaned up by the staff, following the decontamination guidelines provided in Appendix O, section 32.13.15. In the event of an unusual or particularly large spill, involved personnel may contact the Safety Division for assistance.
6. In the event of a spill of infectious material in a public access area (e.g., hallway, elevator), involved personnel will keep all persons away from the spill area and call the Dispatch Office at **REDACTED**.
7. Disinfection of spills that involve blood or OPIM is the responsibility of the involved staff or emergency responders. The disinfection process must be completed before the custodial staff is contacted for cleanup. The custodial staff will not clean up spills prior to their disinfection.
8. Contaminated laundry is:
   - Neither sorted nor rinsed
   - Placed in a bag or container at the location where used
   - Placed in red bags or bags with biohazard label
   - Contained in a manner to prevent leakage

32.9.3 Hepatitis B Vaccination, Post-Exposure Evaluation and Follow-Up

The Ames Health Unit is the provider of required medical services to Government employees who have experienced occupational exposure, with off-hours emergency care provided by 911 call responders.

Note: Law prohibits NASA from requiring the employee to obtain services under their personal health insurance.

An employee who is not covered by this plan but who experiences an exposure incident at ARC that is unrelated to the performance of their occupational tasks will be provided with emergency care (not follow-up) at the Ames Health Unit.

32.9.3.1 Pre-exposure Evaluation and Vaccination

Upon receipt of a Request for Evaluation (Appendix B, section 32.13.2) from the employee's supervisor, the Ames Health Unit schedules an appointment for the employee. With adequate advance notification, the Ames Health Unit makes Hepatitis B vaccination available to the employee within ten working days of initial assignment, unless the employee has previously received the complete Hepatitis B three-vaccination series, or antibody testing reveals that the employee is immune, or the vaccine is contraindicated for medical reasons. The Ames Health Unit notifies the employee of the scheduled appointment date, and, following the evaluation, forwards a copy of the Health Care Professional's Written Opinion for pre-exposure evaluation to the employee's supervisor. The supervisor should modify the employee's assignment if necessary to preclude exposure prior to the evaluation.

Note: NASA shall not make participation in a prescreening program a prerequisite for receiving Hepatitis B vaccination. Participation in a baseline serum storage program is strictly voluntary.

An employee who declines to accept Hepatitis B vaccination shall be required to sign a declination statement (Appendix H, section 32.13.8) as a condition of employment in a position with bloodborne pathogen exposure. Hepatitis B vaccination will be provided to any employee who has previously declined to accept it but decides to accept vaccination while still employed and performing tasks with occupational exposure at ARC.

The Ames Health Unit shall also provide any booster dose(s) recommended by the U.S. Public Health Service at a future date.

32.9.3.2 Postexposure Evaluation and Follow-up

Following a report of an exposure incident, the Ames Health Unit provides a confidential medical evaluation and follow-up to the exposed employee, in accordance with Center for Disease Control guidelines. This follow-up includes obtaining blood specimens from the employee and from the source individual, where feasible, when consent is obtained, and the maintenance of required medical records. Exposure follow-up checklists for exposed and source individuals are provided in Appendix L, section 32.13.12.

Medical counseling is provided by Ames Health Unit health care professionals. Confidential psychological counseling is available to Government employees, at no cost, through the Employee Assistance Program. Information about this counseling program is available from the Safety Division.

32.9.4 Communication of Hazards to Employees

Warning labels will be affixed to containers of regulated waste, refrigerators, and freezers that contain blood or other potentially infectious material. Warning labels are also affixed to other containers used to store, transport, or ship blood or other potentially infectious materials. Individual containers that are placed in a labeled container during storage, transport, shipment, or disposal do not require warning labels. However, any such container that has the potential to become separated from its labeled outer container shall be labeled.

Labels will be either an integral part of the container, or will be affixed as close as possible to the container by string, wire, adhesive, or other method that prevents the loss or unintentional removal of the label.

Labels required by the Bloodborne Pathogens standard shall be predominantly fluorescent orange or orange-red with lettering and symbols in a contrasting color, except for labels on red bags or red containers, which do not need to be color-coded. Labels include the biohazard symbol with either BIOHAZARD or, in the case of regulated waste, BIOHAZARDOUS WASTE.

Guidelines for labels required for materials and waste at ARC are provided in Appendix P, section 32.13.16 and also in the Ames Environmental Management Handbook.

32.9.5 Records

32.9.5.1 Medical Records

Medical records will be retained by the Ames Health Unit for each NASA employee with occupational exposure. Records will be retained for 30 years post employment. HIV test requests are maintained as separate coded records.

Medical records are confidential and will not be disclosed or reported without the employee's express written consent to any person within or outside the workplace, except as may be required by law. These records are provided for examination and copying to the subject employee upon request. Any records generated for a non-NASA employee will be released to a health care provider designated by the employee.

Note: In the event of any bloodborne pathogen exposure incident, the Office of the Chief Counsel shall be called for consultation and advice regarding content, disclosure, and release of medical records.

32.9.5.2 Training Records

Training records will be retained by the Safety, Health and Medical Services Division (Code QH) for each employee with occupational exposure. Records shall be retained for a minimum of three years from the date on which the training occurred. The records will be available upon request to the employee and his/her supervisor, and to employee representatives, ARC management, and regulatory agencies. Training records will include, at a minimum:

1. Dates of training sessions
2. Contents or summary of training sessions
3. Names and qualifications of trainers
4. Names and job titles of all persons who attended the training sessions

32.10 Exposure Incident Evaluation and Report

The first priorities in response to any mishap that involves personnel are to obtain emergency assistance, if needed, and to prevent further injury or damage. Actions to be taken by the exposed employee, the cognizant supervisor, and Ames Health Unit are described below.

Any incident with possible bloodborne pathogen exposure must be reported to the ARC supervisor, who must ensure that response actions are performed.

32.10.1 Exposed Employee Actions in Exposure Incident Response

In the event of any known or suspected occupational exposure to blood or potentially infectious materials, the exposed employee must report promptly to the Ames Health Unit for medical aid and consultation. After hours, the employee will call 911 (or the Ames Dispatch Office) for assistance in reporting to a local hospital emergency room. The employee or involved coworker must promptly report the mishap to his/her supervisor. The scene may be preserved, if appropriate, for accident investigation, while preventing subsequent exposure risk.

It is the employee's responsibility to coordinate scheduling of appointments for treatment, testing, evaluation, discussion, and counseling with his/her supervisor, and to request transportation (to be provided by ARC) if needed.

32.10.2 Line Management Role in Exposure Incident Response

The cognizant supervisor is responsible for ensuring that the exposed employee receives all appropriate medical care, for investigating and reporting the incident, and for immediate and ultimate corrective actions. If any unaltered source material remains (for example, blood in a test tube), the supervisor should seal, label, and deliver it to the Ames Health Unit for possible testing. If the source individual is known or can be identified, it is appropriate for the supervisor to suggest that the individual report to the Ames Health Unit for consultation, without discussion of blood testing. These proceedings should be documented; however, the source individual may not be named in the record without written consent. It is the supervisor's responsibility to enable the employee to schedule and attend convenient appointments for consultation, treatment, and counseling.

If the Ames Health Unit does not provide exposure incident services, the supervisor will coordinate arrangements for care and for transfer of documentation to the health care provider, as well as ensure that medical records are transferred from the health care professional to the Ames Occupational Health Unit for the employee's file.

An Exposure Incident Action Checklist for Supervisors is provided in Appendix C, section 32.13.3, to facilitate documentation of required actions.

Supervisors should refer to APG 1700.1 Chapter 4, Mishap Reporting and Investigating, for general mishap procedures. After telephonic notification to the Safety Division, the formal

mishap report will be made using NASA Form 1627. The initial report must be forwarded to the Safety Division within 24 hours of the incident.

The Bloodborne Pathogens Standards specify information that must be included in the mishap description. The Exposure Incident Description form is provided in Appendix D, section 32.13.4, to facilitate inclusion of all required information in the report. The exposed employee's supervisor shall provide this information (as completely as possible) to the Ames Health Unit (or other health care provider) when the employee is treated and evaluated. It may be appropriate to provide a more complete incident description in the final report. However, confidential information, including medical diagnosis and test results, may not be revealed. Supervisors are advised to consult with the Office of the Chief Counsel before submission of the final mishap report.

The final NASA Mishap Report (NASA 1627) will contain an evaluation of policies, engineering controls, and work practices in place, and failures of control at the time of the incident, including discussion of the effectiveness of protective equipment and clothing used. It must also contain documentation of actions taken and a schedule (with dates) for actions planned to prevent recurrence. Appendix E, section 32.13.5, is provided for this purpose.

32.10.3 Role of Ames Health Unit in Exposure Incident Response

Some responsibilities of the employer are delegated to the Ames Health Unit, acting as provider of emergency and follow-up health care, and as the maintainer of ARC's medical records. The Ames Health Unit, as the Government's representative, shall, with consent, provide relevant records to the health care provider for any exposed individual, subject to consultation and advice by Office of the Chief Counsel regarding legal restrictions.

When a Government employee presents for treatment and evaluation of possible bloodborne pathogens exposure, the Ames Health Unit shall determine if exposure has occurred and initiate appropriate actions. These may include evaluation, consultation, testing, and prophylaxis, if indicated, for the exposure and any reported illnesses, and shall provide a health care professional's written opinion to the exposed employee within 15 days of evaluation. The written opinion will meet all of the requirements as listed in 29 CFR 1910.1030 (sec. (E) (5)). All other findings or diagnosis shall remain confidential and shall not be included in the written report.

An exposed employee will be informed of the results of the source material or, with consent, the results of the source individual's testing for Hepatitis B Virus and Human Immunodeficiency Virus, and told about any medical conditions resulting from the exposure that may require further evaluation or treatment, while still maintaining confidentiality as required by law. California Health and Safety Code Sec. 199.21 specifically prohibits the disclosure of results of an HIV test in a manner that identifies or provides identifying characteristics of the person to whom the test results apply, except pursuant to written authorization, or when another statute expressly provides an exemption. Civil penalties can be assessed against violators of this statute. Such test results can be revealed, however, with the express, written consent of the source individual.

Checklists and forms used by the Ames Health Unit are provided in the appendices.

The Ames Health Unit provides emergency services, including offer of HBV vaccination, to any person who experiences an exposure incident at ARC in performance of duties or as a provider of emergency first aid, whether as collateral duty or as a Good Samaritan.

32.11 Distribution and Availability of Exposure Control Plan

This chapter, which contains the ARC Bloodborne Pathogens Exposure Control Plan, will be provided to each employee with occupational exposure at the time of initial Bloodborne Pathogens

Standard training, and copies shall be made available to each employee at annual refresher training.

32.12 Review and Update

This chapter shall be updated by attachments issued as Interim Policy Statements whenever new or substantially modified tasks are provided to the Health, Safety, and Medical Services Division or when new or modified applicable regulations become effective.

The chapter shall be reviewed periodically by the Safety, Health, and Medical Services Division with revision and update if needed. Revisions will incorporate new or changed requirements mandated by legislation, exposure control plan updates for new or substantially modified positions, tasks and procedures that affect occupational exposure, and preventive measures initiated in response to exposure incidents that occurred since the previous update.

32.13 Appendices

32.13.1 Appendix A: New Employee Orientation Checklist

SS #

ORG. **PHONE**
JOB CLASSIFICATION **DATE OF INITIAL** **ASSIGNMENT**

Tasks with bloodborne pathogen exposure (list):

Training	Date Scheduled	Date Completed
ARC Safety & Emergency Orientation		
Hazard Communication		
Hazardous Waste & Environmental Essentials		
Bloodborne Pathogens Training		
Hazard Assessment for PPE		
Task training		
Other (list)		

Medical

Medical evaluation & HBV Vaccination offer		

SUPERVISOR (Printed name) **(Signature)** **DATE**

32.13.2 Appendix B: Request For Evaluation

TO: Ames Health Unit DATE:

FROM: NAME (Supervisor):

Org:

Mail Stop:

Phone:

Employee Name:

Mail Stop:

Phone:

Bloodborne Pathogens Assignment Start Date:

The above named employee has been assigned tasks with bloodborne pathogens exposure. Please establish a medical record for this employee, and make Hepatitis B vaccination available to him/her unless he/she has previously received the complete Hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

Participation in a prescreening program is not a prerequisite for receiving Hepatitis B vaccination.

An employee who declines to accept Hepatitis B vaccination shall sign the declination statement (DQH-BBP4) to be retained in his/her medical record.

If the employee initially declines Hepatitis B vaccination but at a later date, while still covered by the Standard, decides to accept the vaccination, please provide it for him/her.

If a routine booster dose(s) of Hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, please provide such booster dose(s) to the employee.

32.13.3 Appendix C: Exposure Incident Checklist for Supervisors

Employee Name: _____ Date Of Incident: _____ Date/Initial: _____	
1.	Secure area, obtain aid if needed
2.	Ensure that either employee goes to Occupational Health Unit or other health care professional is made available to employee
3.	Identify witnesses and involved personnel
4.	Identify source of exposure (individual or material)
5.	Send source individual or material to Occupational Health Unit or other health care provider for testing; if consent cannot be obtained, send documentation to Occupational Health Unit
6.	Determine circumstances, record on Exposure Incident Description (32.13.4)
7.	Take Exposure Incident Description (32.13.4) to Occupational Health Unit If employee goes to other health care professional, ensure that Exposure Incident Description (32.13.4) and other mandatory information is provided to the health-care professional (32.13.12)
8.	Notify the Safety Office of exposure incident
9.	Supervise cleanup and area follow-up, if any
10.	Submit NASA 1627 Mishap Report (initial) to DQH within 24 hours
11.	Investigate causes, schedule appropriate actions; record on Exposure Incident Evaluation (32.13.5)
12.	Ensure that the employee receives a copy of the health care professional's written opinion (within 15 days of evaluation)
13.	Contact Ames Legal Office; schedule consultation with employee and other involved persons regarding confidentiality of source name and test results.
14.	If the employee does not use the Health Unit as health care provider, ensure that the employee receives the results of tests on source blood and that copies of test results are forwarded to the Health Unit.
15.	Ensure that the employee is enabled to receive all recommended testing, prophylaxis, and treatment, at no cost and at a convenient time and place.
16.	Ensure that a consultation appointment is made with a health care professional, for the employee, at no cost to the employee and at a convenient time and place, to discuss medical status, including any reported illnesses and recommended treatment.
17.	Ensure that the employee is enabled to receive counseling, at no cost and at a convenient time, and place.
18.	Submit NASA 1627 Mishap Report (final) to DQH with Exposure Incident Description (32.13.4) and Exposure Incident Evaluation (32.13.5) attached within two weeks.

32.13.4 Appendix D: Exposure Incident Description

Attach to Initial NASA Mishap Report (NASA 1627)

Employee Name:

Date of Incident:
Time of Incident:
Location of Incident:

Job Classification:

Description of employee's duties during the exposure incident:

Potentially infectious material (PIM) involved:
Type:
Source (name if available):

Route of Exposure:
_____ Needlestick
_____ Piercing of skin with contaminated sharp
_____ Splashing/spraying of blood or other PIM
_____ Other (describe)

Circumstances under which the exposure occurred:

How the incident was caused (accident, equipment malfunction, etc.):

Personal Protective Equipment (PPE) being used:

Actions taken (first aid, decontamination, cleanup):

Supervisor (Printed Name)	**(Signature)**	**Date**

32.13.5 Appendix E: Exposure Incident Evaluation

Attach to Initial NASA Mishap Report (NASA 1627)

Employee Name:

Date of Incident:
Time of Incident:
Location of Incident:

Job Classification:

Engineering controls and work practices in place:

Failures of control at time of exposure incident:

Actions to prevent recurrence (include date completed or scheduled):

Supervisor (Printed Name)	**(Signature)**	**Date**

32.13.6 Appendix F: Task Controls for BBP Exposure

Organization: Job Classification:
Task Description:

	Type of BBP exposure risk:
	Direct contact with blood
	Direct contact with other fluid (specify)
	Needle stick
	Other sharps hazard (specify)
	Other hazards associated with task:

Engineering and Work Practice Controls

Ventilation
_ General exhaust
_ Local exhaust hood
_ Tissue culture
_ Front exhaust to room
_ Biohazard containment

Housekeeping
_ Cleaning schedule
_ Cleaning/Decontamination methods (specify)

SUPPLEMENTAL RULES AND PROCEDURES (specify)

Personal Protective Equipment
(Specify by name, size, and part number)

Eye/Face _ Safety glasses
_ Goggles
_ Face shield

Hand _ Gloves, disposable
_ Gloves, reusable
_ Other

Inhalation _ Surgical mask (nuisance protection only)

Note: respirators are not authorized for BBP protection and may not be used in BBP worksites except by special arrangement with Code QH.

Clothing _ Coat/smock
_ Coverall
_ Apron
_ Gauntlets
_ Boots
_ Surgical cap
_ Other (specify)

Comments:
Completed By:

Supervisor (Printed Name) **(Signature)** **Date**

32.13.7 Appendix G: BBP Laboratory Inspection Checklist

(Supplemental)

	ACCEPTABLE	
	Yes	No
Housekeeping		
Cleaning schedule & procedures posted		
Cleaning performed as specified & scheduled		
Labware properly stored		
Trash picked up		
Equipment clean & ready for use		
Soiled laundry and PPE properly contained		
Disinfectant supply (bleach) available		
Soap and clean towels for hand washing		
Specimens/Materials		
Labels in place		
Secondary containment in place		
Regulated Waste		
Sharps boxes in place, not overfilled		
Liquid waste containers labeled w/accumulation log		
Secondary containment for liquid waste containers		
Solid waste bagged, with secondary containment		
Signs & Labels		
Primary specimen containers		
Secondary containers		
Refrigerators & freezers		
Liquid waste containers		
Solid waste bags & containers		
Sharps boxes		
Refrigerators, freezers, incubators		
Carts (laundry)		
Designated work area		
PPE		
Gloves - designated gloves stocked		
Masks - designated masks stocked		
Gowns, coveralls, etc. - designated items stocked		
Other PPE (specify) stocked		
Laundry		
Clean laundry maintained separate from soiled		
Contaminated laundry bagged		
Records Review		
Training status of all personnel is current		
Schedule Training/Update for: (Names)		
Task controls established for new procedure		

ESTABLISH CONTROLS AND TRAINING FOR: (specify procedure)
ACTION ITEMS (detail)

COMMENTS

NOTE: This checklist is provided as sample format. The supervisor shall establish a checklist appropriate to the worksite.

COMPLETED BY:

Supervisor (Printed Name) **(Signature)** **Date**

32.13.8 Appendix H: Hepatitis B Vaccine Compliance Form and Fact Sheet

EMPLOYEE	SUPERVISOR	
Name:	Name	SS#
Org:	Mail Stop:	
Phone:	Phone:	

CONSENT FORM

I have read the information sheet about Hepatitis B and the Hepatitis B vaccine. I have had the opportunity to ask questions and understand the benefits and the risks of the Hepatitis B vaccination.

I understand that I must have three doses of vaccine to confer immunity. However, as with all medical treatment, there is no guarantee that I will become immune or that I will not experience an adverse side effect from the vaccine. I request that it be given to me.

Printed Name **Signature** **Date**

VACCINATED/IMMUNE

___ I have received the Hepatitis B vaccine. What year?
___ Positive blood titer. Date:
Vaccine contraindicated for medical reasons.

Printed Name **Signature** **Date**

DECLINATION

I understand that because of my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Printed Name **Signature** **Date**

Date

HEPATITIS B VACCINE

Product Name	Date	Dose	Site	Lot#	Signature
1.					
2.					
3.					

OCCUPATIONAL EXPOSURE TO HEPATITIS B VIRUS (HBV)

Employee Fact Sheet

HEPATITIS B: Hepatitis B is a viral infection of the liver caused by Hepatitis B virus (HBV). Each year approximately 300,000 new infections are reported to the Center for Disease Control. Most people who become infected with Hepatitis B recover completely, but 5 to 10 percent will become chronic carriers of the virus. Although many chronic carriers do not have symptoms of the disease, they are capable of transmitting the virus to other persons, primarily through blood exposures or sexual contact. Each year 4000 to 5000 persons die from Hepatitis B induced liver disease, cirrhosis, or liver cancer. (Two hundred of these die shortly after initial infection from fulminant HBV).

OCCUPATIONAL EXPOSURE: Health care workers with direct patient contact, laboratory workers and researchers, and other employees with blood or body fluid contact are at increased risk for acquiring the Hepatitis B virus. An unvaccinated individual who receives an accidental blood or body fluid exposure from an infected source has a 40 percent chance of becoming infected with Hepatitis B.

VACCINATION: Becoming infected with Hepatitis B is preventable. The Hepatitis B vaccine, a synthetic vaccine made from a yeast base, is currently being offered to Government employees at risk at no cost to the employee. Full immunization requires completion of a series of three vaccinations given over a six-month period. Eighty to 90 percent of healthy people who receive the vaccine develop antibodies that protect them from getting Hepatitis B. There is no evidence that the vaccine has ever caused Hepatitis B. At this time, no one knows how long the immunity produced by the vaccine will last, and the need for additional vaccinations has not been determined. Health care workers who are immunocompromised or on dialysis might require increased doses of the vaccine in order to convert to positive antibodies. The incidence of side effects is very low. A few persons experience tenderness and redness at the injection site. A low-grade fever may occur. Rash, nausea, joint pain, and mild fatigue have also been reported.

TREATMENT OF EXPOSURE: If the individual has received the Hepatitis B vaccine and has documented antibodies to HBV, no further treatment is necessary at the time of exposure. However, someone who is not protected by the vaccine and does not have antibodies to HBV needs to receive Hepatitis B Immunoglobulin (HBIG) as soon as possible after the exposure. These persons are also encouraged to receive the Hepatitis B vaccine at this time.

If you have any questions about Hepatitis B vaccine, call the Ames Health Unit at **REDACTED**.

32.13.9 Appendix I: Consent for the HIV (HIV-1) Antibody Blood Test

I have been informed that my blood will be tested in order to detect whether or not I have antibodies in my blood to the HIV (HIV-1) virus, the causative agent of Acquired Immune Deficiency Syndrome (AIDS). I understand that the test is performed by withdrawing blood and using a substance to test the blood.

I have been informed that the test results may, in some cases, indicate that a person has antibodies to the virus when the person does not (false positive) or fail to detect that a person has antibodies to the virus when the person has the virus (false negative). I have also been informed that currently this is the blood test that may be used to identify the infection with the HIV-1 virus, and that in order to diagnose AIDS; other means must be used in conjunction with the blood test.

I have been informed that if I have any questions regarding the nature of the blood test, its expected benefits, its risks, and alternative tests, I may ask those questions before I decide to consent to the blood test.

I understand that the results of this blood test will be released only to those health care practitioners directly responsible for my care and treatment. I further understand that no additional release of the results will be made without my written authorization.

By my signature below, I acknowledge that I have been given all the information I desire concerning the blood test and release of results and have had all my questions answered. Further, I acknowledge that I have given consent for the performance of a blood test to detect antibodies to the HIV (HIV-1) virus.

Witness Printed Name	**Signature**	**Date**

Printed Name	**Signature**	**Date**

32.13.10 Appendix J: Confirmation of Pre-Exposure Evaluation

Health Care Professional's Written Opinion

To:

Mail Stop:

This letter is to confirm that you have been informed of the results of the evaluation requested by your supervisor because your job has tasks with possible exposure to bloodborne pathogens.

Current guidelines indicate that the Hepatitis B vaccine be given in order to confer immunity before exposure. In your situation:

___ Hepatitis B vaccination series or booster is recommended for you and you initiated the vaccination.
___ You have previously been vaccinated and have evidence of immunity.
___ Hepatitis B vaccination is recommended and you declined vaccination or have not returned to the Ames Occupational Health Unit.
___ Other

In addition, health care professionals have evaluated your ability to use personal protective equipment and have determined that:

___ You are not restricted in the use of personal protective equipment.
___ You are subject to the following restrictions in the use of personal protective equipment:

If you need additional information regarding your medical evaluation or have questions, please contact the Ames Health Unit at **REDACTED**.

Printed Name	**Signature**	**Date**

Copy to requesting supervisor:

Name: _____ Mail Stop:_____

32.13.11 Appendix K: Confirmation of Post-Exposure Evaluation

Health Care Professional's Written Opinion

To:

Mail Stop:

This letter is to confirm that you have been informed of the results of the evaluation following your recently reported exposure to blood or bodily fluids.

Current guidelines indicate that the Hepatitis B vaccine be given after exposure.

In your situation:

___ Hepatitis B vaccination series or booster is recommended for you and you initiated the vaccination.
___ You have previously been vaccinated and have evidence of immunity.
___ Hepatitis B vaccination is recommended and you declined vaccination or have not returned to the Ames Occupational Health Unit.
___ Other

This letter also confirms that you have received information regarding any medical conditions resulting from exposure to blood that would require further evaluation and treatment and to report these to the Ames Health Unit. Instructions have been given regarding follow-up blood testing.

If you need additional information regarding your exposure evaluation or have questions, please contact us at the Ames Health Unit at **REDACTED**.

Printed Name	**Signature**	**Date**

32.13.12 Appendix L: Occupational Exposure to Blood/Body Fluid Worksheet

Employee Name:		Date Of Incident:	
Org. Code:		Time:	
Phone:		Location:	

DATE/INITIAL

___ Exposed employee examined at Ames Health Unit
___ Exposed employee blood collected (baseline)
___ Hepatitis B status known/ordered
___ HIV status known/ordered
___ Appointment made for results
___ Tetanus/Diphtheria last received on
___ Letter to employee regarding Hepatitis B status
___ Follow-up HBV/HIV blood tests performed:
- 6 weeks
- 3 months
- 6 months
- 1 year

___ Exposed employee examined and treated outside Ames

Name and address of health care professional:

_____

___ Documentation forwarded to health care professional
___ Copy of OSHA Bloodborne Pathogens Standard
___ Description of Incident (section 32.13.4)
___ Source individual's blood test results (with consent)
___ Exposed individual's relevant medical records

Attempt to identify source individual documented
___ Source identified, consent obtained
___ Source identified, consent not obtained
___ HBsAG drawn and ordered
___ HIV drawn and ordered
___ Risk factors identified

Comments:

_____

32.13.13 Appendix M: Blood and Body Fluid Exposure – Medical Record

NAME OF EXPOSED EMPLOYEE **DATE OF INCIDENT**

TIME

JOB TITLE **LOCATION**

NAME OF EVALUATING PHYSICIAN **DATE OF CONSULTATION**

Exposure Route

_ Needle _ Other sharp _ Splash _ Contact w/open sore/wound

Other (describe)_____

Sterile Status of Sharp

_____ Known sterile _____ Nonsterile but not contaminated by body fluids
_____ Contaminated by body fluids _____ Unknown

Severity of Exposure

_____ Superficial wound _____ Deep wound
_____ Body fluid injected _____ Body fluid not injected

Body Fluid Involved

Blood _____ Other fluid containing blood (describe) _____

Other body fluid: _____

Source

Unknown _____ Identification not feasible _____ Known: MR#: _____

Risk factors present:

Post-Exposure Treatment

_ Wound care - initial _____ Follow-up
_ Tetanus toxoid (dt) Last tetanus (date): _____
_ Hepatitis vaccine _ Booster _ Series
HBIG

Lab:

Counseling

Hepatitis _____ HIV _____ AZT _____ Needle stick prevention

Diagnosis:

Recommended follow-up:

Signature (evaluating medical professional) Date

32.13.14 Appendix N: Evaluation Checklist for Bloodborne Pathogens

From		(Contractor):	
Contract No:		Contract Title	
To		(COTR):	
Org. Code:			
Date:		Report Period:	__ to___
Verified			

1.	Exposure Control Plan	Yes	No
1.a	Exposure Control Plan is current and is in compliance with ARC Bloodborne Pathogen Program, at a minimum. Exposure Control Plan issue/review date: _____(Requirement: annual review/update)		
1.b	Job classifications and/or tasks with bloodborne pathogen exposure have been reported to the Government.		
	New job classifications/new or modified tasks reported this period (list):		
1.c	Engineering, administrative, and work practice controls meet minimum ARC compliance standards.		
	Personal protective equipment is specified, stock is maintained, and use is mandatory.		
	Worksite inspections are scheduled and performed as scheduled.		
	Worksite cleaning is scheduled and performed as scheduled.		
	Comments:		

2.	Pre-Exposure Medical Evaluation and Vaccination/Post-Exposure Medical Evaluation and Follow-Up	Yes	No
2.a	Pre-exposure evaluation and vaccination and exposure evaluation and follow-up are provided through a designated medical care provider, at no cost, and at a convenient time and place, to employees with occupational bloodborne pathogen exposure. *Note:* The employer may not require employees to obtain medical services through their personal health plan unless all costs (including premiums, deductibles, and co-payments) are made by the employer.		
2.b	All employees with occupational exposure have been offered medical evaluation and pre-exposure HBV vaccination.		
2.c	No occupational exposure occurred during the report period (number of exposure incidents ___). (Attach copy of final NASA Mishap Report for each incident)		

3.	Training	Yes	No
3.a	All employees with occupational exposure have received initial and annual refresher training.		
3.b	New employees received training and offer of vaccination within ten days of initial assignment (Number of employees _____).		
3.c	Continuing employees received annual update training		
3.d	If contractor has designated emergency responders, supplemental training in use of PPE has been provided (initial and annual update).		

4.	Hazard Identification	Yes	No
4.a	Operations performed under this contract present no bloodborne pathogens exposure hazard to employees of the Government or other contractors.		
4.b	The following operations may involve exposure hazard to employees of the Government or other contractors (describe):		

5.	Action Plan for items not verified	Yes	No
5.a	Explanation and Action Plan for each "NO" answer is attached.		

Submitted by:

Printed Name **Signature** **Date**

32.13.15 Appendix O: BBP Decontamination and Spill Cleanup

(Source: Draft NIH Exposure Control Plan)

All work surfaces and equipment that come into contact with blood, body fluids, and any infectious agent or materials must be disinfected daily, upon completion of work, with an appropriate disinfectant. Additionally, work surfaces and equipment must be disinfected after any overt spill. Work surfaces should be covered with plastic-backed absorbent toweling to facilitate cleanup and reduce production of aerosols that may result from a spill. Spills within work areas are to be cleaned up by laboratory or research personnel. Housekeeping staff is not **authorized** to clean up spills of potentially infectious material. Spills of potentially infectious material are to be cleaned up using the following method:

- Notify persons in the immediate area that a spill has occurred.
- Wearing the appropriate protective equipment (impervious gloves, lab coat, etc.), cover the spill with disposable toweling or other absorbent material.
- Carefully pour a freshly prepared 1-in-10 dilution of household bleach (or other suitable disinfectant prepared to manufacturer's specifications) around the edges of the spill, and work to the center.
- Allow a 20-minute contact time.
- Using paper toweling, wipe up the spill, working from the edges of the spill to the center.
- Be careful to avoid cuts with broken glass. Any broken glass should be carefully discarded into an approved sharps container using tongs, brush and pan, or other indirect means of handling.
- Clean the spill area again with fresh disinfectant.
- Place all used materials (not containing sharps) into a red biohazard bag and tie shut. Place the bag into a second red bag. Before the second bag is closed, all personal protective equipment should be removed and placed into the bag. Label (date and generator name, at a minimum) and request pickup for disposal.

For large spills (over one-half cup), mop using a 1:10 bleach solution (or EPA disinfectant). After cleaning, the mixture in the bucket should be flushed down the toilet.

NOTE: Any contaminated PPE must be bagged for disposal or commercial laundry, and shall not be sorted or rinsed at the location of use. Contaminated PPE may not be taken home by an employee for cleaning.

32.13.16 Appendix P: Labels for Potentially Infectious Materials

1. Potentially infectious materials that are not yet waste must be labeled with the following information:
   a. Fluorescent orange or orange-red label with BIOHAZARD legend and symbol
   b. ARC identification:
      - Generator name
      - Date
      - Project/specimen identification
      - Chemical contents, if any
      - Hazards of chemical contents
2. Waste containing potentially infectious materials must be labeled with the following information:
   a. Fluorescent orange or orange-red label with BIOHAZARDOUS WASTE legend or international BIOHAZARD symbol
   b. ARC Waste label

- Generator name
- Location (Building/room)
- Contents description
- Date filled/closed (storage start date)

Note: Contact the Environmental Services Office if a combination of BIOHAZARDOUS WASTE with hazardous chemical waste is anticipated. Waste must be labeled to identify all hazards.

32.13.17 Appendix Q: Biohazardous Waste Accumulation and Disposal Guidelines

1. Definition

   Waste generated from operations with occupational exposure is medical waste when it contains or is visibly contaminated with human blood, fluid, or tissue, or when it contains or is contaminated with pathogenic or infectious microorganisms. Discarded sharps are treated as medical waste, regardless of contamination (except veterinary used sharps). The definition of Medical Waste applies to disposal procedures.

   The Bloodborne Pathogens definition of Regulated Waste for purposes of personnel protection differs in that it is a performance-type standard, which bases the distinction between regulated and unregulated waste on the potential to release PIM during handling. Materials that are visibly contaminated with small amounts of blood or OPIM not subject to release as liquid or flakes may not be Regulated Waste but are still medical waste.

2. Accumulation

   a. Sharps

      - Dispose all sharps (including self-sheathing or self-curing needles) in a rigid, puncture-resistant container that is leak-resistant when sealed (red biohazard box).
      - Expel liquid from syringes and pipettes before disposal (perform in fume hood if aerosol may be generated).
      - When full or otherwise ready for disposal, request pickup.
      - Seal tightly and/or tape closed and date. (Contact the Safety Office if box will also contain inseparable hazardous materials).
      - **Storage restrictions:** not to exceed seven days (or four days after filled) above 0ºC, 90 days below 0ºC. Must be stored in a secured area marked with warning signs. Refer to Ames Environmental Management Manual for more information.

   b. Non-sharp Medical Waste

      - Contain separately from other waste.
      - Contain in a red biohazard bag that meets specified strength test, and place in rigid, leak-resistant container with tight-fitting cover for storage, handling, or transport.
      - Tie before transport.
      - Do not remove biohazardous waste from red bag (permitted only after decontamination).
      - **Storage restrictions:** not to exceed seven days (or four days after filled) above 0ºC, 90 days below 0ºC. Must be stored in secured area marked with warning signs. Refer to Ames Environmental Management Manual for more information.

3. Treatment

   Medical waste (solid or liquid) may not be treated (except as inherent in procedures) unless authorized by Environmental Services Division. Authorized procedures are:

   - Sewer disposal of liquid wastes.

- Autoclaving, using bags or containers with integral sterilization indicator (requires Environmental Services Division authorization).
- Chemical disinfection (with authorized tuberculocidal disinfectant) (requires Environmental Services Division authorization).

Sterilized (autoclaved) waste shall be disposed as ordinary waste, unless it is hazardous chemical waste. Biohazard labels shall be removed or defaced, and red bags placed within opaque bags in order to eliminate any identification of the waste as biohazardous.

32.13.18 Appendix R: Risk Minimization for CPR Training

Source: American College of Occupational and Environmental Medicine

Sample Exposure Control Plan

1. The manufacturer's recommendations and provisions for sanitary practices for the training mannequin should be followed.
2. Students or instructors should not actively participate in training sessions (hands-on training with mannequins) if they have dermatologic lesions on hands or in oral or circumoral areas, if they are known to be seropositive for Hepatitis B surface antigens, if they have upper respiratory tract infections, if they have AIDS, or if the student or instructor has reason to believe that he or she has been exposed to or is in the active stage of any infectious process.
3. Students should be told in advance that the training sessions will involve close physical contact with their fellow students.
4. If more than one CPR mannequin is used in a particular training class, students should preferably be assigned in pairs, with each pair having contact with only one mannequin. This approach would lessen the possible contamination of several mannequins by one individual and therefore limit possible exposure of other class members.
5. All persons responsible for CPR training should be thoroughly familiar with hygienic concepts (e.g., thorough hand washing prior to mannequin contact and not eating during class to avoid contaminating mannequins with food particles) as well as the procedures for cleaning and maintaining mannequins and accessories (e.g., face shields). Mannequins should be inspected routinely for signs of physical deterioration, such as cracks or tears in plastic surfaces, which makes thorough cleaning difficult, if not impossible. The clothes and hair of mannequins should be washed periodically (e.g., monthly or whenever visibly soiled).
6. During the training of two-rescuer CPR, there is no opportunity to disinfect the mannequin between students when the so-called switching procedure is practiced. To limit the potential for disease transmission during this exercise, the student taking over ventilation on the mannequin should simulate ventilation instead of blowing into the mannequin. This recommendation is consistent with current training recommendations of the American Red Cross and the American Heart Association.
7. Training for the obstructed airway procedure involves the student using his or her finger to sweep foreign matter out of the mannequin's mouth. This action could contaminate the student's finger with exhaled moisture and saliva from previous students in the same class or contaminate the mannequin with material from the student's finger. When practicing this procedure, the finger sweep should be either simulated or done on a mannequin whose airway was decontaminated before the procedure and will be decontaminated after the procedure.
8. Personnel conducting the mannequin disassembly and decontamination should wear protective latex gloves and wash their hands after finishing. At the end of each class, the

following procedures should be done as soon as possible to avoid drying of contamination on mannequin surfaces: (a) disassemble the mannequin as directed by manufacturer, (b) as indicated, thoroughly wash all external and internal surfaces (also reusable protective face shields) with warm soapy water and brushes, (c) rinse all surfaces with fresh water, (d) wet all surfaces with a sodium hypochlorite solution having at least 500 ppm of free available chlorine (one-quarter cup of liquid household bleach per gallon of tap water) for 10 minutes (this solution must be made fresh at each class and discarded after each use), and (e) rinse with fresh water and immediately dry all external and internal surfaces; rinsing with alcohol will aid drying of internal surfaces, and this drying will prevent the survival and growth of bacterial or fungal pathogens if the mannequins are stored for periods longer than the day of cleaning.

9. Each time a different student uses the mannequin in a training class, the individual protective face shield, if used, should be changed. Between students or after the instructor demonstrates a procedure such as cleaning any obstruction from the airway, the face and inside of the mouth of the mannequin should be wiped vigorously with clean, absorbent material (e.g., 4-inch by 4-inch gauze pad), wet with either the hypochlorite solution described above, or with 70 percent alcohol (isopropanol or ethanol). The surfaces should remain wet for at least 30 seconds before they are wiped dry with a second piece of clean, absorbent material. NOTE: Although highly bactericidal, alcohols are not considered to be broad-spectrum agents, and use of alcohols here is recommended primarily as an aid in mechanical cleaning; also, in a short contact period, alcohols may not be effective against bacteria or other pathogens. Nonetheless, in the context of vigorous cleaning with alcohol and absorbent material, little viable microbial contamination is likely after the cleaning procedure.
10. People responsible for the use and maintenance of CPR mannequins should be encouraged not to rely totally on the mere presence of a disinfectant to protect them and their students from cross-infection during training programs. Emphasis should be placed on the necessity of thorough physical cleaning (scrubbing, wiping) as the first step in an effective decontamination protocol. Microbial contamination is easily removed from smooth, nonporous surfaces by using disposable cleaning cloths moistened with a detergent solution, and there is no evidence that a soaking procedure alone in a liquid is as effective as the same procedure accompanied by vigorous scrubbing.
11. With specific regard to concerns about potential for Hepatitis B and AIDS transmission in CPR training, it has recently been shown that the Hepatitis B virus is not as resistant to disinfectant chemicals as it was once thought to be. Recent studies have shown that the retroviral agent that causes AIDS, human immunodeficiency virus (HIV), is comparatively delicate and is inactivated in less than 10 minutes at room temperature by a number of disinfectant chemicals, including the recommended agents, alcohol and sodium hypochlorite. Coupled with scrubbing and rinsing with soap and water, the sodium hypochlorite dilution will ensure that HIV, as well as a wide variety of other infectious agents with potential for contaminating mannequin surfaces, will be killed. In fact, if the steps in recommendation 8, above, are consistently followed, the students of each class should be presented with mannequins having a sanitary quality equal to or better than eating utensils in a properly operated restaurant. A higher level of surface disinfection is not warranted, and the recommended disinfectant chemicals (alcohol and household bleach) are safe, effective, inexpensive, easily obtained, and well tolerated by students, instructors, and mannequin surfaces when properly used.

32.13.19 Appendix S: Risk Minimization During CPR

Source: American College of Occupational and Environmental Medicine

Sample Exposure Control Plan

No transmission of Hepatitis B virus infection during mouth-to-mouth resuscitation has been documented. However, because of the theoretical risk of salivary transmission of HIVB during mouth-to-mouth resuscitation, special attention should be given to the use of disposable airway equipment or resuscitation bags and the wearing of gloves when in contact with blood or other body fluids. Resuscitation equipment and devices known or suspected to be contaminated with blood or other body fluids should be used once and disposed of or be thoroughly cleaned and disinfected after each use.

Clear plastic facemasks with one-way valves are available for use during mouth-to-mask ventilation. These masks provide diversion of the victim's exhaled gas away from the rescuer and may be used by health-care providers and public safety personnel properly trained in their use during two-person rescue, in place of mouth-to-mouth ventilation. The need for and effectiveness of this adjunct in preventing transmission of an infectious disease during mouth-to-mouth ventilation are unknown. If this type of device is to be used as reassurance to the rescuer that a potential risk might be minimized, the rescuer must be adequately trained in its use, especially with respect to making an adequate seal on the face and maintaining a patent airway. Such a device requires two hands to secure a proper face seal and to maintain an open airway. As an additional precaution, the rescuer may elect to wear latex gloves because saliva or blood on the victim's mouth or face may be transferred to the rescuer's hands.

END OF DOCUMENT